

## Information on your source water

### Where does my water come from?

Needham draws potable water from two separate sources. The primary source is the Charles River Wellfield, which has been the major source of water since the 1930’s. Water is drawn from the wellfield and treated at the adjacent Charles River Water Treatment Facility. The Town’s secondary source is the Massachusetts Water Resources Authority (MWRA). The MWRA supply is conveyed through a 36” diameter pipe from the MWRA’s Metro West Tunnel in Weston to a booster station on Central Avenue at St. Mary Street. In addition, Needham has emergency connections to provide and receive water from the towns of Wellesley and Dedham.



### Source Water Protection

To ensure the highest quality of drinking water for residents, the Town has adopted by-laws and health regulations designed to preserve and protect existing and potential sources of drinking water supplies and conserve natural resources. The Department of Environmental Protection (DEP) approved the Town’s water source protection strategy based on land use and operational restrictions in areas of influence to the Town’s drinking water wells. The information collected was incorporated into the Source Water Assessment Protection (SWAP) report. The report is a planning tool to support local and state efforts to improve water supply protection. The assessment helps focus protection efforts on appropriate best management practices and drinking water source protection measures. Residents can help protect sources by taking hazardous household chemicals to hazardous collection days and by limiting the use of pesticides and fertilizers. The complete SWAP report is available on-line at <http://www.mass.gov/eea/docs/dep/water/drinking/swap/nero>

### Understanding our water treatment process

In order to maintain compliance with Federal and State Drinking water standards, Needham well water must be treated before it reaches consumers’ taps. The Charles River Water Treatment Facility utilizes processes which include the removal of manganese by oxidation and filtration. Sodium hydroxide is used to raise the natural pH and alkalinity of water to reduce the corrosion of lead and copper from household plumbing systems. Chlorine, a highly efficient disinfectant, is added to kill disease-causing bacteria that water or its transport pipes might contain. Adding chlorine precipitates (oxidizes) the manganese prior to removal by greensand filtration. Chlorine levels are continuously monitored and controlled to ensure that disinfection residuals are maintained at the Facility and throughout the distribution system. Ortho-polyphosphate, a food based additive is then added to minimize calcium precipitating in hot water systems. Finally, fluoride is added to prevent tooth decay. In our system, the fluoride level is adjusted to an optimal level averaging one part per million (ppm) to improve oral health in children. At this level it is safe, odorless, colorless and tasteless. Our water system has been providing this treatment since 1972. All components of the water distribution and treatment systems are closely monitored by State certified operators through a computerized Supervisory Control and Data Acquisition (SCADA) system.

### Stormwater Management in Needham



The Town of Needham implements numerous activities to reduce pollution in the runoff from rain storms and snow melt (known as “stormwater”). Much of this runoff is carried by drain pipes, which were designed to quickly move the water off the land surface to nearby rivers,

streams, ponds and wetlands with little or no treatment. On its way over the land, this runoff picks up pollution such as oil, fertilizers, pet waste, sand and dirt, and trash such as cigarette butts, wrappers, and plastic bottles. This stormwater pollution also gets absorbed into the ground where it travels to the wells that supply a portion of our drinking water. Learn more about Needham’s Stormwater Management Program and what you can do to help protect the quality of our waterbodies and maintain clean drinking water at: <http://www.needhamma.gov/dpw>

Report illegal dumping: Only rain belongs down the storm drain system. Dumping into storm drains is illegal. To report illegal dumping in Needham, call 781-455-7550 between 8am to 5pm. After 5pm, contact the Needham Police at 781-455-7570.

We are pleased to report that during the past year water delivered to your home complied with all State and Federal drinking water regulations. In 2014, the Town collected more than 500 water samples and tested for over 100 potential contaminants. Needham tested for bacteria, volatile organics, total trihalomethanes, haloacetic acids, nitrates, perchlorate and fluoride. For your information, the table below contains only the contaminants that were detected in Needham’s water. Although the substances are significantly below the Maximum Contaminant Level (MCL) set by the EPA, it is important for you to know what was detected and the amount present in the water.

Tested After Treatment						
Substance	Units	MCL Highest Level Allowed	Needham Detected Level	Range of Detections	MCLG	Major Sources
Chlorine	ppm	4 MRDL	0.75 avg	0.70-0.85	4 MRDLG	Water additive for disinfection
Fluoride	ppm	4 MRDL	0.95 avg	0.80-1.10	4	Water additive which promotes strong teeth
Manganese	ppm	0.05	0.01 avg	0.005-0.015	0	Naturally found mineral in the earth
Nitrate	ppm	10	0.79	0.79	10	Runoff from fertilizer use, Leaching from septic tanks
Perchlorate	ppb	2	0.12	0.2	2	Rocket propellants, fireworks, flares, blasting agents

In the Distribution System						
Disinfection By-products	Frequency Collected	MCL Highest Level Allowed	Highest results or RAA*	Range of Detections	MCLG	Major Sources
(TTHM) Total Trihalomethanes	Quarterly	80 ppb	32.5	4.3-55.2	0	Byproducts of water chlorination
Haloacetic Acids	Quarterly	60 ppb	7	3.7-11.9	0	Byproducts of water chlorination

\*RAA= Highest running annual average of four consecutive quarters.

Microbiological Contaminant	(MCL)	Highest # of Positive Samples	Major Sources
Total Coliform	No more than 5% of samples positive in a given month.	0	Naturally present in the environment

Inorganic Contaminants	Date Collected	90th Percentile	Action Level	MCLG	# of sites sampled	# of sites above Action level	Major Sources
Lead * (ppb)	2012	8	15	0	30	0	Corrosion of household plumbing
Copper* (ppm)	2012	0.03	1.3	0	30	0	

\* The next round of sampling will be in the summer of 2015.

Unregulated Contaminats	Range Detected (ppb)	Average (ppb)
Chromium (total)	0.33- 0.42	0.375
Chromium -6	0.102- 0.120	0.111
Strontium	37.4- 139	88.2
Chlorate	111- 151.533	131.3

### Definitions & Acronyms

**ppm** = parts per million, **ppb** = parts per billion (1 ppm = 1000 ppb), **ND** = not detected  
**Safe Drinking Water Act (SDWA)** - The Federal Law that governs the regulation of public water supplies  
**Maximum Contaminant Level (MCL)** - The highest allowable level of a contaminant in drinking water. MCL’s are set as close to the MCLG’s as feasible using the best available treatment technology.  
**Maximum Contaminant Level Goal (MCLG)**- The level of a contaminant in drinking water below which there is not known, or expected, risk to health.  
**Maximum Residual Disinfection Level (MRDL)** – The highest level of a drinking water disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.  
**Maximum Residual Disinfection Level Goal (MRDLG)** – The level of drinking water disinfectant below which there is no expected risk to health. MRDLG’s do not reflect the benefits of the use of disinfectants to control microbial contaminants.  
**Action Level (AL)**- The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.  
**Environmental Protection Agency (EPA)**- The federal agency responsible for the development of SDWA regulations.  
**Department of Environmental Protection (DEP)**- The Massachusetts state regulatory agency responsible for the implementation of the SDWA.

## Drinking Water & Public Health

The Safe Drinking Water Act (SDWA) is the main Federal law that ensures the quality of Americans’ drinking water. Under SDWA, EPA sets standards for drinking water quality and oversees the states, localities, and other water suppliers who implement those standards. SDWA authorizes the EPA to set national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. The EPA, MassDEP, and Needham DPW then work together to make sure that these standards are met. The Food and Drug Administration (FDA) and the Massachusetts Department of Public Health have established regulations that limit contaminants in bottled water which must provide the same protection for public health.

UCMR: All Public Water Suppliers are required to report unregulated contaminant monitoring results whenever they are detected, that is, any detect above the minimum reporting level (MRL). Unregulated contaminants are those that don’t yet have a drinking water standard set by US Environmental Protection Agency.

*Contaminants that may be present in source water include:*

**Microbiological contaminants:** such as viruses and bacteria that may come from sewage septic systems, agricultural livestock and wildlife.

**Pesticides and herbicides:** that may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

**Inorganic contaminants:** such as salts and metals that can be naturally-occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining or farming.

### What do I need to know about lead in tap water?



Under EPA regulations, each year Needham must test tap water in homes that are likely to have high lead levels. These are usually homes with lead service lines. The EPA requires that 90% of the sampled homes must have lead levels below the action level of 15 parts per billion

(ppb). To further decrease your potential exposure, you should always use cold water for drinking and cooking.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with old service lines and home plumbing. Needham is responsible for providing high quality water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking and cooking. If you are concerned about lead in your water, you may wish to have your water tested. You may also contact the DPW for information pertaining to your water service pipe. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at: <http://www.epa.gov/safewater/lead>.

**Organic contaminants:** synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, also urban stormwater run off, and septic systems.

**Radioactive contaminants:** can be naturally occurring or result from oil and gas production, and mining activities.



Drinking water, including bottled water, may reasonably be expected to contain small amounts of some contamination. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA’s Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable than others to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care providers.

Your drinking water is routinely tested for these substances in accordance with Federal and State drinking water regulations. These substances have not been detected or are significantly below the (MCL) allowed.

### What can I do to reduce exposure to lead from drinking water?

Never use hot water from the faucet for drinking or cooking, especially when making baby formula or other food for infants.

Ask the DPW if there are lead service pipes leading to your home.

Check your plumbing fixtures to see if they are lead-free. Be mindful of places you may find lead in or near your home. Paint, soil, dust, and some pottery may contain lead.

#### WHERE TO GO FOR MORE INFORMATION

**Massachusetts Dept. of Environmental Protection**  
[www.mass.gov/dep](http://www.mass.gov/dep) 617-292-5500

**Massachusetts Dept. of Public Health** • [www.mass.gov/dph](http://www.mass.gov/dph) 617-624-6000

**Massachusetts Water Resource Authority** • [www.mwra.com](http://www.mwra.com) 617-242-5323

**Department of Conservation and Recreation**  
[www.mass.gov/dcr/watersupply.htm](http://www.mass.gov/dcr/watersupply.htm) 617-626-1250

**US Center for Disease Control and Prevention (CDC)**  
[www.cdc.gov](http://www.cdc.gov) 800-232-4636

**U.S Environmental Protection Agency** • [www.epa.gov](http://www.epa.gov) 800-311-3435

State Certified Water Quality Testing Labs  
[www.mwra.com/04water/html/testinglabs.html](http://www.mwra.com/04water/html/testinglabs.html)

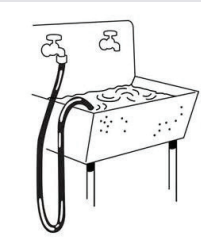


## What is a cross connection and what can I do to prevent one?

### What is a cross connection?

A cross-connection is an ACTUAL or POTENTIAL link between the potable water supply and a source of contamination (sewage, chemicals, gas, etc.). This has the potential of becoming a hazardous situation if the contaminant source were to enter (backflow) into the potable water. Backflow occurs when the water flow is reversed, due to a change in pressure, and water flows backwards, into and through the system. Contamination can also occur when the pressure in the drinking water system drops due to occurrences such as water main breaks and heavy water demand causing contaminants to be drawn (back-siphonage) into the potable water system.

### Where do I find cross connections?



Garden hoses connected to an outside water tap are the most common sources of cross connections in the home. The garden hose creates a hazard when submerged in non-potable water such as a swimming pool or when attached to a chemical sprayer for weed control.

The Water Division surveys all industrial, commercial, and municipal facilities to ensure that all cross connections are eliminated or protected by a backflow prevention device. The Water Division is also responsible for inspecting and testing each device to ensure it is providing maximum protection.

### What can I do to prevent backflow?

You can prevent backflow in your home plumbing system by installing an inexpensive hose-bib vacuum breaker on each of your outside water spigots.

These vacuum breakers will prevent water from being back-siphoned from a polluted or even contaminated water source into your home's water pipes or the public water distribution system. These devices cost about \$10 and are available at most hardware stores.

## Water, what can I do to protect and conserve it?

In 2013, the Massachusetts Department of Environmental Protection Agency (MassDEP) mandated that the Town of Needham implement restrictions on outdoor water use. Though not popular with many residents, the restrictions are similar to what many neighboring communities as well as throughout the country have already implemented. The purpose of the restrictions is to ensure an adequate supply of water for drinking and fire protection and to protect the quality and quantity of water in local aquatic habitats such as ponds, rivers and wetlands.

Globally, we should all know that water covers approximately 70 percent of the Earth's surface. What many people don't know is that less than 1% of the water is suitable for human use. Looking forward, the potential effects of climate change have created uncertainty about future water availability. A growing population and increased pressure to allocate water to fisheries and the environment are also placing new demands on the freshwater supply.

By using water more efficiently, you can help preserve water supplies for future generations, save money, and protect the environment. By changing a few habits, you will help protect your water supply and perhaps save on water and sewer charges. Here are some outdoor water saving tips that residents can implement in their homes.

- Water your lawn only as needed. Too frequent watering can actually weaken a lawn by encouraging shallow roots. The general rule of thumb is one inch per week including rain.

- Timing is critical for lawn watering. Water your lawn in the early morning or late evening to avoid evaporation.

- Install mulch to keep roots cool and moist. Mulch serves as a ground cover that reduces water evaporation from the soil.

- Keep your blades sharp and high. Raising your lawn mower blade prevents tearing of the grass. Longer grass provides shade for the roots and helps reduce water loss.

- Use shut off-nozzles on hoses and automatic shut-off devices on irrigation systems. Unattended hoses can use 10 gallons or more per minute.

- Install a soil moisture sensor with a rain sensor that turns automatic sprinkler systems off when the soil contains sufficient moisture and when it is raining.

*During 2014, Needham Water Division delivered over 1.2 billion gallons of water to its customers.*



### Improvements to the Water System

Each part of the water system needs routine maintenance in order to maintain a safe and dependable water supply. Listed are some of the projects undertaken by the Water Division in 2014.

- . Replaced 8 fire hydrants.

- . Upgraded 1,206 water meters.

- . Replaced 154 (lead or iron pipe) water service connections.

- . Replaced 550 feet of 16 inch water main on Oak Street from (Maple St to Chestnut St).

- . Replaced 72 feet of 12 inch water main on Oak St at railroad tracks.

- . Replaced 465 feet of 16 inch water main on Chestnut St from (School St to Oak St).

- . Installed 600 feet of six inch water main on Hill St.

- . Repaired 13 water main breaks and 15 service leaks.

- . Well #2 Redevelopment at the Charles River Water Treatment Facility.

- . Upgrade the remaining two filters with new media at the Water Treatment Facility.

- . Replaced St.Mary's (MWRA) pump station, due to be on line June 2015.

### Future Projects for 2015

- . On-going water main and water service replacement programs.

- . Well #3 Replacement Project/ Construction, due to be operational July 2016.

- . Upgrade Supervisory Control and Data Acquisition system (SCADA). Integrate video surveillance (Camera's) to the Water Treatment Facility, Birds Hill & Dunster Rd storage tanks.

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Needham Resident



*Drinking water  
test results and  
other important  
information from  
the Town of  
Needham*

2014 report on your drinking water

*Town Of Needham • Needham Water and Sewer Division PWS #3199000.*

### 2014 Drinking Water Consumer Confidence Report Town Of Needham Needham Water Division PWS #3199000.



Dear Resident,

The Needham Water & Sewer Division is proud to report that water delivered to you has met or exceeded all Federal and State drinking water standards. This year's Water Quality Report describes where your water comes from, how it is treated and delivered, and the steps we take to ensure its quality.

We are dedicated to the planning, operations and maintenance necessary for producing and delivering high quality drinking water for all household, commercial, and community needs. We strive to serve the community in a courteous, efficient, and environmentally sustainable manner. We are passionate about our work and try to instill our values of integrity, professionalism, and teamwork in everything that we do.

While maintaining water quality is critical and is our top priority, other issues such as service reliability, adequacy of supply, preparing for future growth, protecting our water supply, conservation and holding water rates down are also of key importance. We want you to have the same confidence we have in the water we deliver. Please contact us if you have any questions or comments about your water quality. Steve Cusick, Water Treatment Manager at (781) 416-4071 or Chris Seariac, Assistant Water & Sewer Superintendent at (781) 455-7550.



Department of Public Works  
500 Dedham Ave  
Needham, MA

*This is a right-to know report required to be sent to you in accordance with the Federal Safe Drinking Water Act Public Law 104-182, Section 141(c)(4).*